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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

BRUCE A. PHILLIPS ET AL.

Serial No.: 09/265,214

Filed: March 10, 1999

For: xDSL-BASED COMMUNICATION SYSTEM

Attorney Docket No.: 1552 (USW 0506 PUS)

Group Art Unit: 2663

Examiner: Soon D. Hyun

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Mail Stop Appeal Brief - Patents
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Sir:

This is an Appeal Brief from the final rejection of claims 9, 11, 19 and 22 of the Office Action mailed on November 17, 2004 for the above-identified patent application.

I. REAL PARTY IN INTEREST

The real party in interest is Qwest Communications International Inc. ("Assignee"), a corporation organized and existing under the laws of the state of Delaware, and having a place of business at 1801 California Street, 9th Floor, Denver, Colorado 80202.

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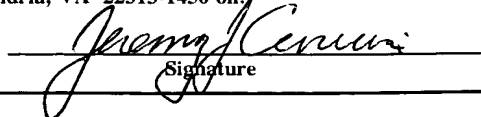
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II. RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences known to the Appellant, the Appellant's legal representative, or the Assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 9, 11, 19 and 22 are pending in this application. Claims 9, 11, 19 and 22 have been rejected and are the subject of this appeal.

IV. STATUS OF AMENDMENTS

An amendment after final rejection was filed concurrently with this appeal brief. Appellant respectfully requests entry of the amendment for purposes of this appeal.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The invention relates to packet-based xDSL architectures for broadband communication systems. Page 1, lines 1-2. With reference to Figure 1, claims 9 and 11 recite a broadband communication system 10 using xDSL packet-based technologies. The system 10 comprises an upstream xDSL modem 20, a twisted pair 24 connected to the upstream xDSL modem 20, and a plurality of taps 26 defined along the twisted pair 24. The system further comprises a plurality of downstream xDSL modems 30, 32, 34, 36, 38. Each downstream xDSL modem is in communication with a corresponding tap of the plurality of taps 26. The upstream xDSL modem 20 and the plurality of downstream xDSL modems 30, 32, 34, 36, 38 provide packet-based point to multipoint communication between the upstream xDSL modem 20 and the plurality of downstream xDSL modems 30, 32, 34, 36, 38. Page 3, lines 5-13; page 6, lines 1-6.

Claim 9 specifically recites that the plurality of downstream xDSL modems 30, 32, 34, 36, 38 are operative to transmit to the upstream xDSL modem 20 in a contention-based

protocol. Page 3, lines 21-22; page 7, lines 1-5. Claim 11 specifically recites that the upstream xDSL modem 20 is preferably operative to transmit to the plurality of downstream xDSL modems 30, 32, 34, 36, 38 in a broadcast-based protocol. Page 3, lines 23-25; page 7, lines 9-11.

With reference to Figure 3, claims 19 and 21 recite a broadband communication method 120 for xDSL packet-based applications. The method 120 comprises broadcasting from a point, over a twisted pair, with an upstream xDSL modem (block 122) and receiving at a plurality of points with a plurality of downstream xDSL modems (block 126). Each downstream xDSL modem is in communication with a corresponding tap of a plurality of taps defined along the twisted pair. The upstream xDSL modem and the plurality of downstream xDSL modems are configured to provide packet-based point-to-multipoint communication between the upstream xDSL modem and the plurality of downstream xDSL modems. Page 4, lines 9-17; page 8, lines 22-31; page 9, lines 1-2.

Claim 19 specifically recites the method further comprising transmitting from the plurality of downstream xDSL modems to the upstream xDSL modem in a contention-based protocol. Claim 21 specifically recites the method wherein broadcasting further comprises transmitting from the upstream xDSL modem to the plurality of downstream xDSL modems in a broadcast-based protocol. Page 3, lines 23-25; page 8, lines 25-27; Figure 3, block 124.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 9 and 19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Bremer et al. (U.S. Patent No. 6,580,785) in view of Kobayashi et al. (U.S. Patent No. 4,596,011).

Claims 11 and 21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Bremer et al. (U.S. Patent No. 6,580,785).

VII. ARGUMENT

A. **Claims 9 and 19 Are Patentable Over Bremer et al. (U.S. Patent No. 6,580,785) In View Of Kobayashi et al. (U.S. Patent No. 4,596,011)**

Claim 9 recites a broadband communication system utilizing xDSL packet-based technologies. An upstream xDSL modem is connected to a twisted pair having a plurality of taps defined along the twisted pair. Each downstream xDSL modem is in communication with a corresponding tap. The upstream xDSL modem and the plurality of downstream xDSL modems are configured to provide packet-based point-to-multipoint communications between the upstream xDSL modem and the plurality of downstream xDSL modems. Specifically, claim 9 recites, in combination with other limitations, point-to-multipoint communication over twisted pair using xDSL modems. And further, claim 9 recites that the plurality of downstream xDSL modems are operative to transmit to the upstream xDSL modem in a contention-based protocol.

Claim 19 recites a broadband communication method for xDSL packet-based applications comprising a combination including packet-based point-to-multipoint communication over twisted pair between the upstream xDSL modem and a plurality of downstream xDSL modems, including transmitting from the plurality of downstream xDSL modems to the upstream xDSL modem in a contention-based protocol.

Regarding claims 9 and 19, the Examiner relies on Bremer as the primary reference, and relies on Kobayashi as the secondary reference.

Bremer describes an apparatus and method for simultaneous multiple telephone type services on a single telephone line. For the preferred embodiment, Bremer discloses (Figures 2, Figures 3a-3b) providing multiple telephone type services using an arrangement

of analog plain old telephone system (POTS) interface hardware 32 and an addressing scheme. At this point, Bremer only describes a variation on a POTS implementation to provide simultaneous multiple telephone type services on a single telephone line.

Bremer does go on to describe (Figures 7-9, Col. 8, ll. 31 - Col. 9, l. 39) alternative embodiments that involve xDSL transmissions. Bremer mentions dynamically allocating a data transmission frequency band in response to POTS communications across the same line (Col. 9, ll. 9-21). Still further, Bremer mentions an alternative embodiment that achieves simultaneous multiple telephone type services on a single wire pair by utilizing frequency division multiplexing to assign an available frequency range for each device that is separately addressable (Col. 9, ll. 22-28). Nevertheless, Bremer is only utilizing DSL transmission techniques as an alternative approach to implement simultaneous multiple telephone type services on a single telephone line. (This is in alternative to a POTS variation.)

Bremer fails to describe the specific combinations including the particular use of a contention-based protocol in combination with a particular xDSL system and method. The Examiner relies on Kobayashi as a secondary reference.

Regarding Kobayashi, Kobayashi does describe a data transmission system for a local network. The Examiner states that in view of Kobayashi's teachings of CSMA/CD, one of ordinary skill in the art would have been motivated to incorporate the CSMA/CD into Bremer so that the plurality of modems could access the common medium whenever the medium is free. Appellants contend that there is no motivation to combine Bremer and Kobayashi to achieve the claimed invention. With regard to Kobayashi, Kobayashi only describes data transmission for a local network. Kobayashi does describe the use of CSMA/CD (Carrier Sense Multiple Access with Collision Detection). Nevertheless, there is no suggestion in the cited prior art that the CSMA/CD concepts explained by Kobayashi would be usable in the particular xDSL arrangement recited in Appellants' claims. That being said,

there is no motivation to simply adapt any available transmission procedure to a multipoint xDSL implementation. The fact that Kobayashi does describe CSMA/CD still fails to present any motivation to combine this teaching with teachings of Bremer to achieve the claimed invention. After all, it would not be simply obvious to adapt a CSMA/CD approach to a multipoint DSL implementation. The Examiner's general statement of motivation is rather conclusory and does not explain specifically why there would be motivation to adopt a contention-based protocol. The mere fact that such a protocol exists does not render its use obvious in any and all applications.

For the reasons given above, Appellants believe that claims 9 and 19 are patentable.

B. Claims 11 And 21 Are Patentable Over Bremer et al. (U.S. Patent No. 6,580,785)

Claims 11 and 21 recite a broadband communication system and method wherein, in combination with other limitations, the upstream xDSL modem is operative to transmit to the plurality of downstream xDSL modems in a broadcast-based protocol. The Examiner states that Bremer teaches a digital TV (56) and therefore it would have been obvious to one having ordinary skill in the art to incorporate a broadcast-based protocol into Bremer to achieve the claimed invention. Applicants disagree. the Examiner has not provided motivation to make such modifications to Bremer to achieve the claimed invention. The Examiner only references digital TV (56) in Bremer and does not provide a basis for a motivation to combine teachings to achieve the claimed invention.

In the final action, the Examiner further states that it would have been obvious to one having ordinary skill in the art to incorporate the broadcast-based protocol into Bremer to broadcast the TV program from the upstream modem to the plurality of TVs.


Appellants disagree. Digital TV 56 in Figure 2 of Bremer is shown at user premise 41. It cannot be concluded that Bremer would employ a broadcast-based protocol. In further regard to Bremer, the entire Bremer patent relates to simultaneous multiple telephone type services on a single telephone line. If anything can be concluded about the service to digital TV 56, the logical conclusion would be that the television service is one of the many services provided over the single telephone line, with the services separated in one of the various ways described by Bremer. None of this suggests the use of the specifically claimed combinations of claims 11 and 21.

For the reasons given above. Claims 11 and 21 are believed to be patentable.

The fee of \$120 for a one month extension of time is enclosed. Please charge any additional fee or credit any overpayment in connection with this filing to our Deposit Account No. 02-3978.

Respectfully submitted,

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Enclosure - Appendices



VIII. CLAIMS APPENDIX

9. A broadband communication system of the type utilizing xDSL packet-based technologies, the system comprising:

an upstream xDSL modem; and

a twisted pair connected to the upstream xDSL modem;

a plurality of taps defined along the twisted pair;

a plurality of downstream xDSL modems, each downstream xDSL modem being in communication with a corresponding tap of the plurality of taps, the upstream xDSL modem and the plurality of downstream xDSL modems providing packet-based point-to-multipoint communication between the upstream xDSL modem and the plurality of downstream xDSL modems; and

wherein the plurality of downstream xDSL modems are operative to transmit to the upstream xDSL modem in a contention-based protocol.

11. A broadband communication system of the type utilizing xDSL packet-based technologies, the system comprising:

an upstream xDSL modem;

a twisted pair connected to the upstream xDSL modem;

a plurality of taps defined along the twisted pair;

a plurality of downstream xDSL modems, each downstream xDSL modem being in communication with a corresponding tap of the plurality of taps, the upstream xDSL modem and the plurality of downstream xDSL modems providing packet-based point-to-multipoint communication between the upstream xDSL modem and the plurality of downstream xDSL modems; and

wherein the upstream xDSL modem is operative to transmit to the plurality of downstream xDSL modems in a broadcast-based protocol.

19. A broadband communication method for xDSL packet-based applications, the method comprising:
broadcasting from a point, over a twisted pair, with an upstream xDSL modem;
receiving at a plurality of points with a plurality of downstream xDSL modems,
each downstream xDSL modem being in communication with a corresponding tap of a plurality of taps defined along the twisted pair, the upstream xDSL modem and the plurality of downstream xDSL modems providing packet-based point-to-multipoint communication between the upstream xDSL modem and the plurality of downstream xDSL modems; and
transmitting from the plurality of downstream xDSL modems to the upstream xDSL modem in a contention-based protocol.

21. A broadband communication method for xDSL packet-based applications, the method comprising:
broadcasting from a point, over a twisted pair, with an upstream xDSL modem;
receiving at a plurality of points with a plurality of downstream xDSL modems,
each downstream xDSL modem being in communication with a corresponding tap of a plurality of taps defined along the twisted pair, the upstream xDSL modem and the plurality of downstream xDSL modems providing packet-based point-to-multipoint communication between the upstream xDSL modem and the plurality of downstream xDSL modems; and
wherein broadcasting further comprises:
transmitting from the upstream xDSL modem to the plurality of downstream xDSL modems in a broadcast-based protocol.